

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rothbart (U.S. Patent No. 4,733,593, hereafter '593) in view of Kikumoto et al. (U.S. Patent No. 4,694,724, hereafter '724).

3. '593 teaches a method for indicating consecutive timing of beat of music with moving tempo (see abstract), comprising: first step for inputting all consecutive beat durations and memorize values of the duration along a music composition or part of a music composition (22; 24; 48) (see abstract); second step for reading out consecutive beat durations memorized by first step, getting consecutive beat timings from the beat duration, and indicating the timings using audio output (4, 22, 24, 64, 66, 70) (see cols. 3-5).

4. '593 does not teach that the beat durations can be input by tapping. However, '724 teaches that tapping is an advantageous method for inputting beat patterns (see, e.g., abstract & paragraph bridging cols. 8 & 9). As such, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have allowed users

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of '593 to have input beat durations by tapping, since tapping was known to be an advantageous method for inputting beat patterns.

5. Claims 20 & 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over '593 & '724, as applied to claim 17 above, and further in view of Tumblin (U.S. Patent No. 4,321,853, hereafter '853) and George (U.S. Patent No. 4,649,794, hereafter '794).

6. Claim 20: '593 teaches the metronome apparatus claimed in claim 1, but does not explicitly teach that the second step uses a display for showing baton-like movement, by controlling illuminating point so that downward movement changes to upward movement at the timing of beat, nor that the point of attention moves up and down on a vertical array of illuminating devices. However, '853 teaches that a metronome with a display for showing baton-like movement, by controlling illuminating point so that downward movement changes to upward movement at the timing of beat can be advantageous for some people ('853, col. 3, lines 8-37). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have included a display like that of '853 with '593 since it was known to be advantageous for some people. Likewise, '794 teaches that a vertical array can be used in a metronome. It would have been obvious to one of ordinary skill in the art at the time the invention was made, or at least obvious to try, to have used a vertical array like that of '794 with the obvious combination of '593 & '853 as a matter of design choice in order to have attained a desired aesthetic appeal. The combination outlined here would necessitate calculating an illumination point from time elapsed from beginning of the beat and

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controlling illuminating time ratio of two adjacent devices when the calculated illuminating point falls between these two devices (see, e.g., '853 & '794). As such, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included such calculating and controlling means, since such a means would be necessary (and straightforward to design) in order to implement the device.

7. Claim 21: The obvious combination outlined above would provide the metronome apparatus claimed in claim 3, wherein upmost and down-most position of said point of attention change according to combination of meter and sequence number of beat coming next in a bar (see rejection above & '593, cols. 3-5).

8. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over '593 & '724, as applied to claim 17 above, and further in view of Miyake (U.S. Patent No. 5,256,832, hereafter '832). '593 & '724, as combined above, teach the concepts of claim 17, as well as a step for input of all individual beat duration as described in claim 17, and memorizing every duration data of the input ('593, 22, 24, 66, 70; see cols. 3-5), but does not explicitly teach a method of production of music minus one or karaoke (wherein sound of a part is excluded in recorded sound) utilizing the method of claim 17 comprising: first step for sound recording of performance by all members including said part to be excluded; third step for sound recording of performance excluding said part, wherein the performance is played in the same tempo with the performance of the first step, using the second step in claim 17; or fourth step for writing the recorded sound made in the third step on media or producing copies of it.

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9. However, karaoke or “music minus one” tracks are commonly known in the art to be comprised of full performances with one part removed such that performers can perform the removed part along with the karaoke track. Since ‘593 & ‘724, as combined above, teach a suitable method for inputting the beats of a track and displaying it using a metronome, and since metronomes have long been known to be useful in assisting performers to play with proper timing, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used, or at least to have tried using, this method to generate a metronome display in order to allow performers to play to the beat of the full performance. In creating a karaoke track (which are commonly known and would be obvious to create because they have long been known in the art to be useful in allowing users to play along with music), it would have been obvious to one of ordinary skill in the art at the time the invention was made to have utilized said generated metronome display in the recording of said karaoke track in order to assist performers in playing with the proper timing and to have recorded the sound made on a media or to have produced copies of it in order to distribute the karaoke track to consumers.

10. Nonetheless, ‘593 does not specifically teach a step for sound recording of performance excluding said part, wherein the performance is played in the same tempo with the performance of the first step, using second step in claim 17. However, ‘832 teaches a method for making duration data of each beat aligned with a recording (see second embodiment spanning cols. 11 & 12), as does ‘724 (see paragraph spanning cols. 3 & 4; the user simply inputs the tempo themselves). As is noted in ‘832, a beat

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which is human and rich in music and not fixed as in a [normal] metronome is preferable (col. 15, lines 5-7) and "in actual performance, usually, [a song's] tempo varies during the performance due to the performer's feeling or degree of elation" in which case "the beat count speed varies." It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the methods described in '832 or '724 with '593 in order to align the duration data of each beat with the recording of the first step in order to have provided duration data of each beat in the second step to the metronome in claim 17 in order to have accounted for the fact that in actual performance, usually (or at least often), a song's tempo varies during the performance due to the performer's feeling or degree of elation.

11. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over '593, '832, & '724, as applied to claim 6 above, and further in view of Endoh et al. (U.S. Patent No. 6,016,295, hereafter '295). '593, '832, & '724, as combined above, teach the method claimed in claim 6, but do not explicitly teach that the media in the fourth step is delivered in such a way that duration data of each beat of the second step is combined with recorded sound of the third step on separate track of the same media including but not limited to compact disk or on each individual media. However, '294 teaches that recording a practice rhythm count or metronome sound on a karaoke track can be advantageous in order to help users to keep proper timing with the track (col. 10, lines 56-57). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have included a practice rhythm count or metronome sound on

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the karaoke tracks generated and recorded in claim 6 in order to help users keep proper timing with the track. Presenting either the metronome sound and karaoke tracks in separate tracks would have been obvious to one of ordinary skill in the art at the time the invention was made in order to have provided users with the option of whether they want to listen to the metronome sound for the karaoke track, the karaoke track itself, or both at the same time.

### ***Allowable Subject Matter***

12. Claims 18-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record does not fairly teach or suggest the limitations described in claims 18-19.

### ***Response to Arguments***

14. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANDREW R. MILLIKIN whose telephone number is (571)270-1265. The examiner can normally be reached on M-R 7:30-5 and 7:30-4 Alternating Fridays (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad can be reached on 571-272-1990. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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